

WATER QUALITY M E M O R A N D U M

Utah Coal Regulatory Program

September 15, 2010

TO: Internal File

THRU: James D. Smith, Permit Supervisor *JS 15 Sept 2010*

FROM: April A. Abate, Environmental Scientist II *AAA 9-15-2010*

RE: 2010 First Quarter Water Monitoring, Plateau Mining Corporation (PMC), Willow Creek Mine, C/007/0038-WQ10-01 Task ID #3492

The Willow Creek Mine is in reclamation. The mines have been closed and sealed. The disturbed areas around the portals have been regraded and seeded. The most recent surface operations took place in Willow Creek Canyon, about a mile from the junction between U.S. Highway 6 and State Highway 191. The reclaimed area in Crandall Canyon is also part of the Willow Creek permit area. Crandall Canyon has recently received Phase I Bond Release approval from the Division.

There are no ground water sites monitored during the reclamation phase.

1. Were data submitted for all of the MRP required sites? YES ☒ NO ☐

Under the reclamation plan, surface water monitoring is required for sites listed on Table 4.7-2 and shown on Map 15.

Springs- There are no springs monitored during the reclamation phase.

Streams- There are six surface water-monitoring sites:
B3N (Willow Creek above power plant),
B-5 (Price River below processing plant above Willow Creek),
B-6 (Price River above coal processing plant),
B25 (Crandall Canyon Creek),
B26 (lower reach of Crandall Canyon)
B151 (Willow Creek – 3 miles above Willow Creek Mine)

The reclamation sampling water quality list is presented in Section 13, p. 28. Sampling is conducted quarterly. PMC tries to monitor the sites within a two week period from March 15th, June 10th, September 5th and November 30th to attempt to

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collect data that coincides with first thaw, spring high flow, end of summer low-flow and last sample before freeze-up.

All required stream sampling locations were monitored for the quarter on March 30, 2010. The locations in Crandall Canyon B25 and B26 were inaccessible due to snow.

Wells- There are no operational monitoring wells.

UPDES- The mine has been reclaimed and as a result, there are no currently active Utah Pollutant Discharge Elimination System (UPDES) monitoring locations at the site.

2. **Were all required parameters reported for each site?** YES ☒ NO ☐

3. **Were any irregularities found in the data?** YES ☒ NO ☐

The only parameters that were outside of two standard deviations this quarter were the sodium and chloride values from the Price River samples (B5 and B6) collected above and below the coal processing plant above and below Willow Creek. Likely, this is attributable to road salt making its way into the Price River.

Most of the reliability checks performed on the data with respect to the conductivity measurements seemed to be considerably out of acceptable ranges. In general, reliability checks for total dissolved solids (TDS) relative to measured conductivity show a TDS result that is between 55 – 75% of the conductivity value. Contrary to last quarter's results, all of the TDS results for the stream samples this quarter measured relative to the conductivity readings were well within this range. In addition to that, the values of conductivity divided by total cations (meq) should equal a value in the acceptable range between 90-110. All surface water samples analyzed this quarter indicated results in the 70s and 80s, which were considerably higher than last quarter's average rates, which were in the 40s but still lower than the 90-110 acceptable ranges.

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Date	ID#	Sample Location	T-Cats	TDS	Cond(FLD)	TDS/Cond uctivity	Conductivity/ Cations
			meq/l	mg/l	umhos/cm	>0.55 - <0.75	>90 - <110
3/30/2010	B151	WILLOW CK 3 MILES AB WILLOW CK MINE	12.3	658	1005	0.65	82
3/30/2010	B3N	WILLOW CK AB POWER PLANT	11.99	665	1008	0.66	84
3/30/2010	B5	PRICE R BL PROCESSING PLANT AB WILLOW CK	7.73	396	607	0.65	79
3/30/2010	B6	PRICE R AB COAL PROCESSING FACILITY	7.55	379	619	0.61	82

Meq= milliequivalent

mg/L=milligrams per liter

FLD = Field

TDS is a recognized pollutant for the Price River Watershed. TDS standards for this section of the Price River Watershed are set at 1,700 mg/L based on the Utah Administrative Code Rule R317-2. Stream samples collected continue to remain well below this standard.

4. On what date does the MRP require a five-year resampling of baseline water data.

Baseline data were collected at the beginning of mining operations for a two-year period; however routine 5-year sampling is not specified in MRP. The Division recommends baseline water quality parameter sampling at each five-year renewal period.

5. Based on your review, what further actions, if any, do you recommend?

The Permittee is very diligent with timely submittals and quality control checks of data – no further actions are necessary at this time.